



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada
Tel (613) 632-5200

D5557-1
Job Sheet 171647

Accounting Job RD17-1046-01



Part No: D5557-1

Job Qty: 20 ea

Part Name: Cutter Blade



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 2/6/18

Job Tracking No:

Due Date: 2/16/18

Created By: Marie Lajeunesse

Type: R+D

Description:

Note: Dwg D5557 Rev.A IPP Rev.A New issue 18/01/29 JFS Verified by:DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	20 Ea		2/1/18	0.00	0.00	Start Up Machining-4		
110	CNC Vertical Machining	20 pcs		2/2/18	0.00	10.00	HAAS1-1		
120	QC	20 pcs		2/2/18	0.00	0.00	QC2 Machining-4		
130	QC	20 pcs		2/2/18	0.00	0.00	QC8 Machining-4		
140	Outsource	20 pcs		2/15/18			MEI001-VC 39/81	10	MAR 16 2018
150	Packaging	20 pcs		2/15/18	0.00	0.00	Packaging2		APR 18/23/20
155	QC	20 pcs		2/15/18	0.00	0.00	QC6		38
160	SprayPaint	20 pcs		2/16/18	0.00	0.10	Spray Paint		MAR 21 2018
170	QC	20 pcs		2/16/18	0.00	0.00	QC14		38
180	Packaging	20 pcs		2/16/18	0.00	0.00	Packaging3-2		DA88
190	QC21-SA	20 Ea		2/16/18	0.00	0.00	QC21		21 APR 3 2018

Part Op 90 - Cut Blank at 4.625"

Descriptions: 110 - 1-Machine per folio FB765 DWG REV: _____ FOLIO REV: _____ 2- Deburr and break all sharp edges EXCEPT OTHERWISE NOTED. SEE NOTE 8 ***KNIFE EDGE MUST BE SHARPENED USING STONE, REMOVE ALL BURRS ON CUTTING EDGE***

140 - PO to Metcor: FINISH: HEAT TREAT TO 58-62 RC ROCKWELL HARDNESS PART ARE MADE FROM AISI A2 TOOL STEEL PLEASE NOTE: DETAIL C OF C REQUIRED

160 - PRIME AS PER DWG AND QSI005, SEE NOTE #2 PRIME AS PER IAW MIL-P-23377J TYPE 1 CLASS N ***1-2 MIL MAX*** PRIMER BATCH: 138747

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
MSTEEL-A2-B0.500X1.250	AISI A2 Tool Steel Bar, 0.500 X 1.250	7.7200 ft (.386 ea)	90-Start up Operation	S024352

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	MSTEEL-A2-B0.500X1.250	8	74	0

Part Specifications

Specifications could not be found.

POSITIVE RECALL
FEB 06 2018

EFFECTIVE

RELEASED

AUTH

DATE

21

3-20

18/5/25

Plex 2/6/18 1:22 PM Dart.lajeunesse.marie

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐									
Date : _____	Step #: _____	QTY Effect _____									
Description Work Order Deviation											
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="3" style="text-align: left;">Root Cause</th> </tr> <tr> <td style="width: 33%;"> Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ </td> <td style="width: 33%;"> No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐ </td> <td style="width: 33%;"> Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ </td> </tr> <tr> <td> Temperature/Cur ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/ ☐ Inspection Incom ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incor. ☐ Drill Holes ☐ </td> <td colspan="2" style="vertical-align: top;"> OTHER : _____ </td> </tr> </table>			Root Cause			Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cur ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/ ☐ Inspection Incom ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incor. ☐ Drill Holes ☐	OTHER : _____	
Root Cause											
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐									
Temperature/Cur ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/ ☐ Inspection Incom ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incor. ☐ Drill Holes ☐	OTHER : _____										

Date: 02/22/18
 Inspector: _____
 Revision: 0557
 Serial No/Batch: 8044579
 Job No: 171647
 Part: 0557-1
 Container No: 8044579

 DART AEROSPACE
 1270 Aberdeen Street
 Cambridge, ON K4A 1K7
 Tel: 1 813 632-5200
 Email: sales@dartaero.com
 www.dartaero.com

Misaligned/off center ☐ Turning Sequence ☐

DQA: _____ Date: _____

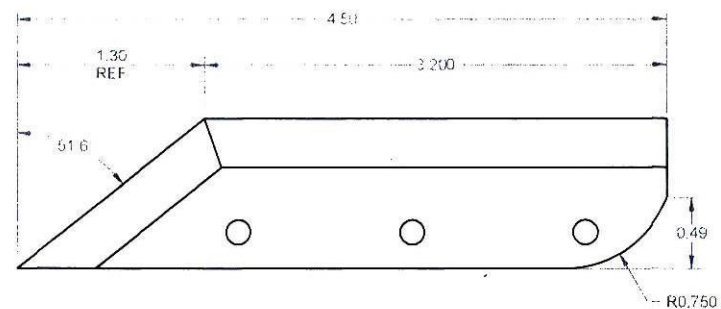
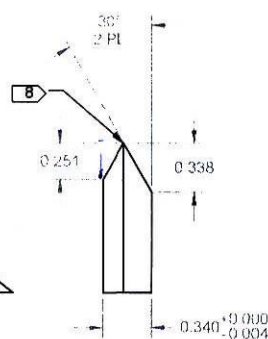
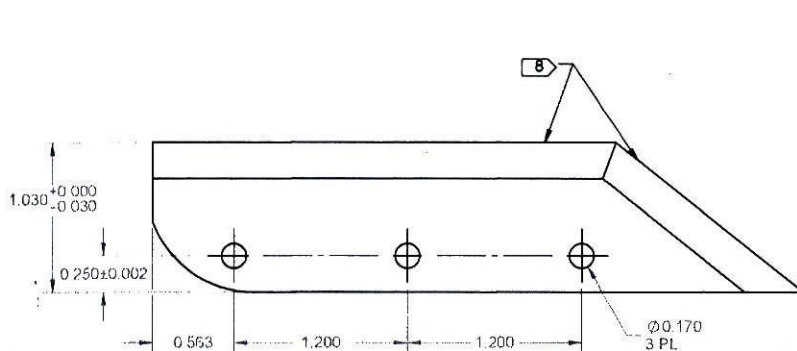
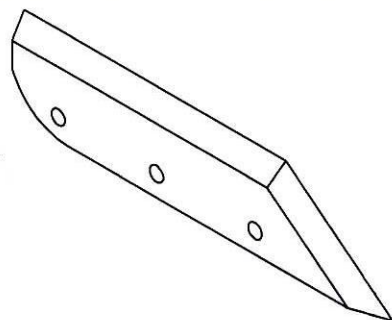


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					



D5557-1 CUTTER BLADE

NOTES:

- 1) MATERIAL: AISI A2 TOOL STEEL BAR PER ASTM A681
ANNEALED CONDITION HEAT TREAT TO 58-62 ROCKWELL C HARDNESS AFTER MACHINING
REF DART SPEC MSTEEL-A2
- 2) FINISH: PRIME 1AW MIL-P-23377J TYPE1, CLASS N:1-2 MIL MAX, AS PER QSI 005
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.7
- 7) WEIGHT: 0.28 lbs
- 8) DO NOT BREAK BLADE EDGE, INTENDED TO BE SHARP

PRELIMINARY ISSUE

A		NEW ISSUE		AJS	17.11.15
REV.		DESCRIPTION		BY	DATE
DESIGN	AJS	DART AEROSPACE USA, INC. EUGENE, OR			
DRAWN	AJS				
CHECKED	CP				
MFG. APPR.	JFS				
APPROVED					
DE APPR.		DRAWING NO. D5557			REV. A7
DATE	17.11.15	TITLE CUTTER BLADE			SHEET 1 OF 1
		COPYRIGHT © 2017 BY DART AEROSPACE USA, INC.			SCALE
		THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.			NTS



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

PO039181

Supplier: MEI001-VC
Metcor Inc.
560 Boul. Arthur Sauve
Saint-Eustache
QC
J7R 5A8 Canada
Phone: 450 473 1884
Fax: 450 491 5498

PO No: PO039181
PO Date: 3/2/18
Due Date: 3/20/18
Purchase Order Revision:
Revision Date:
Ship-To Contact: Lacelle, Linda
Phone: llacelle@dartaero.com

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pynt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	171547	D2741	Replacement Blade Issue P/O: HARDEN MATERIAL: ULTIMATE TENSILE STRENGTH = 152 KSI MINIMUM YIELD TENSILE STENGHT = 141 KSI (34-40 HRC) SAND BLAST PART AFTER HEAT TREAT NOTE: DO NOT OIL AFTER SANDBLAST NOTE: DETAIL C OF C REQUIRED	Firmed	3/27/18	38 pcs	0 pcs	38 pcs	\$18.0152632/pcs	\$684.58

Line Item Note part made from 4130 bar

2		646.3013	Blade ISSUE P/O: FINISH: HEAT TREAT TO 58-62 RC ROCKWELL HARDNESS As Per Dwg 646.3000 PART ARE MADE FROM AISI A2 TOOL STEEL	Firmed	3/20/18	12 pcs	0 pcs 12x	12 pcs AT 18/03/20	\$2.2977/pcs	\$27.57
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Items										
Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
8	171646	D5504-1	Blade PO to Metcor: FINISH: HEAT TREAT TO 58-62 RC ROCKWELL HARDNESS PART ARE MADE FROM AISI A2 TOOL STEEL PLEASE NOTE: DETAIL C OF C REQUIRED	Firmed	3/20/18	44 pcs ✓	0 pcs 448	44 pcs AT 18/03/20	\$2.2977/pcs	\$101.10
9	171647	D5557-1	Cutter Blade PO to Metcor: FINISH: HEAT TREAT TO 58-62 RC ROCKWELL HARDNESS PART ARE MADE FROM AISI A2 TOOL STEEL PLEASE NOTE: DETAIL C OF C REQUIRED	Firmed	3/20/18	20 pcs 20x	0 pcs	20 pcs AT 18/03/20	\$2.2977/pcs	\$45.95
10	171726	RB T102137- 107-107	Sleeve 1-Issue P/O to Metcore ; P/O _____ RC 32-37 2-Bead blast 3- Certificate of Conformity is required	Firmed	3/20/18	6 pcs	0 pcs	6 pcs	\$50.00/pcs	\$300.00
Line Item Note part made from 4140N round bar 0.875"										
11	171725	RB T102137- 107-105	Strap 1-Issue P/O to Metcore ; P/O _____ RC 46-50 2-Bead blast 3- Certificate of Conformity is required	Firmed	3/20/18	6 pcs	0 pcs	6 pcs	\$50.00/pcs	\$300.00
Line Item Note part made from 4140N round bar 0.625"										

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 5A8

Tél.: 450-473-1884

Télécopieur / Fax administration: 450-491-5498

Télécopieur / Fax production: 450 491-6454

Certificat de Conformité Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
325893	1

CLIENT / customer 215

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K8A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K8A 1K7

1

COMMANDE DU CLIENT customer po	CLASSIFICATION PIECE part classification	MATÉRIEL material	MAÎTRE D'OEUVRE prime contractor	PROGRAM
PO039181	N/A	A2		
<u>SPÉCIFICATIONS DU PROCÉDÉ</u> processing specifications				
VAC HARDEN				
HARDEN AND TEMPER				
EXIGENCE / requirement	SPÉCIFICATIONS / specified	TESTS EXÉCUTÉS / performed	RÉSULTATS DE TESTS / results	
HARDNESS	58 - 62 HRC	8	58 - 61 HRC	

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 5A8

Tél.: 450-473-1884

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CLIENT / customer 215

DART AEROSPACE

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HAWKESBURY

ON K8A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K8A 1K7

1

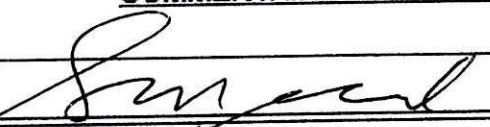
QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description
138	45	646.3013 (12) 646.3013 DWG 646.3000 (12) 646.3014 DWG 646.3000 (12) 646.3015 JOB 170451 DWG 646.3000 (12) 646.3314 JOB 170459 DWG 646.3300 (12) 646.3315 JOB 170460 DWG 646.3300 (12) 646.3316 DWG 646.3300 (44) D5504-1 171646 (20) D5557-1 171467 2= 1BC + 1 VALISE

APPROUVÉ

16/3/18

COMMENTAIRES / comments

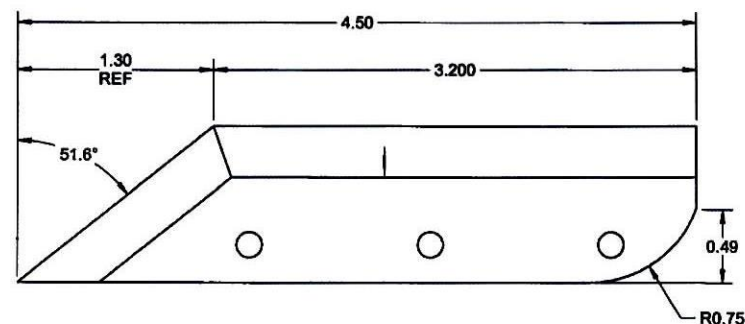
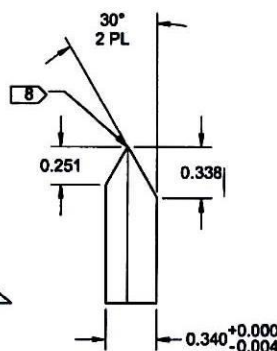
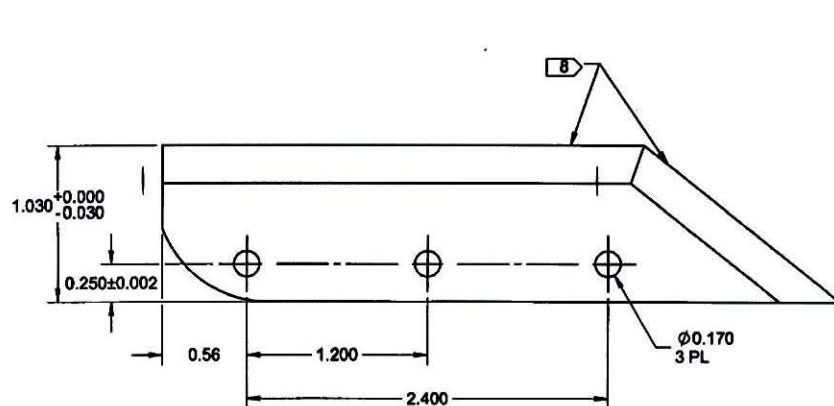
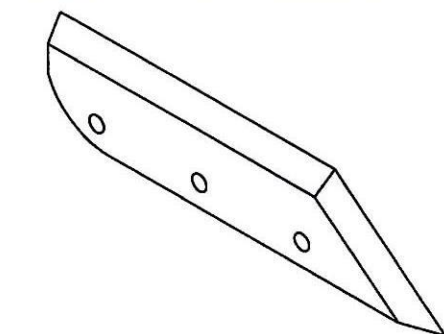
APPROUVÉ par / Approved by:



DATE: 2018-03-12

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

171647



D5557-1 CUTTER BLADE

RELEASED

2018 FEB 28

ECN 10-5H

NOTES:

- 1) MATERIAL: AISI A2 TOOL STEEL BAR PER ASTM A681
ANNEALED CONDITION HEAT TREAT TO 58-62 ROCKWELL C HARDNESS AFTER MACHINING
REF DART SPEC MSTEEL-A2-B
- 2) FINISH: PRIME IAW MIL-P-23377J TYPE1, CLASS N:1-2 MIL MAX, AS PER QSI 005
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.7
- 7) WEIGHT: 0.28 lbs
- 8) DO NOT BREAK BLADE EDGE, INTENDED TO BE SHARP

A		NEW ISSUE		AJS	17.11.15
REV.		DESCRIPTION		BY	DATE
DESIGN	AJS	DART AEROSPACE USA, INC. EUGENE, OR		REV. A	
DRAWN	AJS			SHEET 1 OF 1	
CHECKED	RF				
MFG. APPR.	JFS				
APPROVED	HS				
DE APPR.	CP	CUTTER BLADE		NTS	
DATE	17.11.15	COPYRIGHT © 2017 BY DART AEROSPACE USA, INC.		THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL. NO DISSEMINATION OR REPRODUCTION OF THIS DOCUMENT IS TO BE MADE FOR ANY PURPOSE OR FOR ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

APPROVED

12/18/2017

Print



Dart Hawkesbury
1270 Aberdeen St Hawkesbury, ON K6A 1K7 Canada
Tel: (613) 632-5200

Purchasing Receipts

PO No	Supplier	Line Item No	Ref No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Serial No	Status	Receive Date	Price/Unit	Aging Days
PO038583	MES002-VC	1	1	Net 30	AISI A2-80 500X1.250	AISI A2 Tool Steel Bar, 0.500 X 1.250 : MATERIAL: AISI A2 STEEL, ANNEALED CONDITION AS PER ASTM A681 receive ft				100	12/12/2017	100		5024352	Stock	12/18/2017	\$ 9.80 / ft	0
		2			AISI 4130N80 500X03.000	4130 Bar 0.500 X 3.00 : MATERIAL: AISI 4130N STEEL BAR PER MIL-S-6758 OR AMS 6345/6348/6370/6528 receive ft				47		47		5024353	Stock	12/18/2017	\$ 29.95 / ft	0
Total:										147		147						

Plex 12/19/2017 1:47 PM Dart Dubois, Pascal



Métaux Solutions

L'alliage de qualité et de rapidité

1020, Bvd. Jacques Cartier Est
Longueuil (Québec) J4N 1L7

info@metauxsolutions.com
T 450 641-3330
Ext 1-800-967-2003

CERTIFICAT D'ANALYSE

DART AEROSPACE LTD
1270, ABERDEEN STREET
HAWKESBURY, ONTARIO
K6A 1K7

14 Déc. 2017

Product Description

A2-05000

1/2 X 32 1/4" X 140 1/16" A2 PLATE

ASTM A-681-08
DFARS Compliant

PLATE#: 419427B

Country of Origin FRANCE

Shipped Pcs
1.00

Back Orderd
0.00

PO LINE

PM HEAT# 83806

BHN 207.00

C -	0.9860	Mn -	0.6010	P -	0.0070	S -	0.0006	Si -	0.2700	Ni -	0.0890
Cr -	5.1620	Mo -	0.9310	Cu -	0.0900	V -	0.2170	W -	0.0040		

ITEM 1: 9 X 1.25" X 140"

COMMANDE : 131157

REF : 38583

Métaux Solutions inc. certifie que les analyses sur ce document sont exactes et que le matériel rencontre les spécifications énumérées.

Préparé par

Shipping Order 13/12/2017

METAUX SOLUTIONS INC
2625 BOUL JACQUES CARTIER EST
LONGUEUIL, QUEBEC
J4N 1L7 Tel.: 450 641-3330

Order : 131157
Reference : 38583
Ship : PICK UP / PICK UP

Customer: 6323336

DART AEROSPACE LTD
1270, ABERDEEN STREET
HAWKESBURY, ONTARIO
K6A 1K7

Ship To

Same

Tel.: 1 613 632-3336

Item No.	Description	Qty	Qty. Delivered	B/O Qty
	***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N			
TP12A2	A-2 PLATE TFA 1/2" THICK 9 X 1.25" -0+0 X 140" R/L HT: PM83806	246	246	0
MP124130N	4130 NORM PLATE .500 THICK AMS 6345 40 X 3" X 14" HT: D0652	11.6	11.6	0

SHIP JOURNEY COLLECT
JP

14-12-17

H. GOMEZ

Martrex Farminimax

Skid
1/2: 23" x 22" x 8" (273/bs)

Bundle
2/2: 12' x 7" x 7" (255/bs)

Shipping :
Package No :
Merchandise Received:

Ref. :



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO038583

Supplier: MES002-VC
Metaux Solutions
2625 boul Jacques-Cartier Est
Longueuil
QC
J4N 1L7 Canada
Phone: 800 558 8858
Fax: 514 633 8044

PO No: PO038583

PO Date: 12/6/17

Due Date: 12/12/17

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Phone:

E-MAILED
DEC 06 2017

Via: Ground

Pymt Terms: Net 30

Freight Terms:

Special Comments:

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Items

Line Item	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	MSTEEL-A2-B0.500X1.250	AISI A2 Tool Steel Bar, 0.500 X 1.250 : MATERIAL: AISI A2 STEEL, ANNEALED CONDITION AS PER ASTM A681 receive ft	Firmed	12/12/17	100 ft	0 ft	100 ft	\$9.80/ft	\$980.00
Line Item Note TOLERANCE -0+0" AS PER QUOTATION #16619 CUT AT 1.25"									
2	M4130NB0.500X03.000	4130 Bar 0.500 X 3.00 : MATERIAL: AISI 4130N STEEL BAR PER MIL-S-6758 OR AMS 6345/6348/6370/6528 receive ft	Firmed	12/12/17	47 ft	0 ft	47 ft	\$29.95/ft	\$1,407.65
Line Item Note 40 pcs cut at 14"									
								Grand Total: \$2,387.65	

Order Notes

Procurement Quality Clauses

A005 right of entry

A012 chemical and physical test report

A016 personnel qualification

A017 raw material identification (as applicable)

A026 certification of material conformance

A041 quality management system

A042 dart notification by supplier

A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M5Steel-A2-B0.500X1.250

PO / BATCH NO: 038583

DATE: DEC 18 2017

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 100"
 QUANTITY INSPECTED: 100"
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.500
 THICKNESS RECEIVED: 0.500
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y ☒ N	
CORRECT FINISH	☒ Y ☒ N	
CORROSION	Y ☒ N	
CORRECT GRAIN DIRECTION	☒ Y ☒ N	
CORRECT MATERIAL PER M-DRAWING	☒ Y ☒ N	<u>A57m A681</u>
CORRECT THICKNESS	☒ Y ☒ N	
PHOTO REQUIRED	Y ☒ N	
CORRECT REF # TO LINK CERT	☒ Y ☒ N	<u>Heat # PM783806</u>
CORRECT MATERIAL IDENTIFICATION	☒ Y ☒ N	
CORRECT M# ON THE MATERIAL	☒ Y ☒ N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y ☒ N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y ☒ N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION

ENGINEERING SIGNOFF (if required)

INSPECTED BY: [Signature]
 DATE: DEC 18 2017

SIGNED OFF BY: _____
 DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI A2 TOOL STEEL, ANNEALED CONDITION

SPECIFICATION: ASTM A681

PART NUMBER: MSTEEL-A2-BT TTT X W.WWW

WHERE "T.TTT" = THICKNESS IN INCHES
"W.WWW" = WIDTH IN INCHES

EG. 0.500" X 1.250" BAR = MSTEEL-A2-B0.500X1.250

TOLERANCES PER ASTM A681 AS FOLLOWING

TABLE 14 Hot-Rolled Flat Bars
(Width and Thickness Tolerances Width Tolerances)

Specified Widths, in. (mm)	Width Tolerances, in. (mm)											
	Under						Over					
To 1 (25.4) incl.	0.016 (0.41)						0.031 (0.79)					
Over 1 to 3 (25.4 to 76) incl.	0.051 (0.79)						0.047 (1.19)					
Over 3 to 5 (76 to 127) incl.	0.047 (1.19)						0.063 (1.60)					
Over 5 to 7 (127 to 178) incl.	0.063 (1.60)						0.094 (2.39)					
Over 7 to 10 (178 to 254) incl.	0.078 (1.98)						0.125 (3.18)					
Over 10 to 12 (254 to 305) incl.	0.094 (2.39)						0.156 (3.96)					

Specified Widths, in. (mm)	Thickness Tolerances for Specified Thicknesses, in. (mm)											
	To 1 (25.4) incl.		Over 1 to 2 (25.4 to 50.8) incl.		Over 2 to 3 (50.8 to 76) incl.		Over 3 to 4 (76 to 102) incl.		Over 4 to 5 (102 to 127) incl.		Over 5 to 6 (127 to 152) incl.	
	Under	Over	Under	Over	Under	Over	Under	Over	Under	Over	Under	Over
To 1 (25.4) incl.	0.006 (0.15)	0.010 (0.25)	0.008 (0.20)	0.012 (0.30)	0.010 (0.25)	0.016 (0.41)						
Over 1 to 2 (25.4 to 50.8) incl.	0.006 (0.15)	0.014 (0.36)	0.008 (0.20)	0.016 (0.41)	0.010 (0.25)	0.020 (0.51)	0.020 (0.51)	0.024 (0.61)				
Over 2 to 3 (50.8 to 76) incl.	0.006 (0.15)	0.014 (0.36)	0.008 (0.20)	0.020 (0.51)	0.010 (0.25)	0.024 (0.61)	0.020 (0.51)	0.027 (0.69)	0.026 (0.66)	0.034 (0.86)		
Over 3 to 4 (76 to 102) incl.	0.008 (0.20)	0.020 (0.51)	0.010 (0.25)	0.027 (0.69)	0.013 (0.33)	0.024 (0.61)	0.024 (0.61)	0.030 (0.76)	0.032 (0.81)	0.042 (1.07)	0.040 (1.02)	0.048 (1.22)
Over 4 to 5 (102 to 127) incl.	0.010 (0.25)	0.024 (0.61)	0.012 (0.30)	0.024 (0.61)	0.015 (0.38)	0.030 (0.76)	0.027 (0.69)	0.035 (0.89)	0.032 (0.81)	0.042 (1.07)	0.042 (1.07)	0.050 (1.27)
Over 5 to 6 (127 to 152) incl.	0.012 (0.30)	0.020 (0.51)	0.014 (0.36)	0.030 (0.76)	0.016 (0.41)	0.030 (0.76)	0.030 (0.76)	0.035 (0.89)	0.036 (0.91)	0.046 (1.17)	0.044 (1.12)	0.054 (1.37)
Over 6 to 7 (152 to 178) incl.	0.014 (0.36)	0.027 (0.69)	0.016 (0.41)	0.032 (0.81)	0.018 (0.45)	0.035 (0.89)	0.030 (0.76)	0.040 (1.02)	0.034 (0.86)	0.048 (1.22)	0.046 (1.17)	0.056 (1.42)
Over 7 to 10 (178 to 254) incl.	0.016 (0.41)	0.030 (0.76)	0.020 (0.51)	0.035 (0.89)	0.024 (0.61)	0.040 (1.02)	0.035 (0.89)	0.045 (1.14)	0.040 (1.02)	0.054 (1.37)	0.052 (1.32)	0.064 (1.63)
Over 10 to 12 (254 to 305) incl.	0.020 (0.51)	0.035 (0.89)	0.025 (0.64)	0.040 (1.02)	0.028 (0.71)	0.045 (1.14)	0.040 (1.02)	0.050 (1.27)	0.046 (1.17)	0.060 (1.52)	0.058 (1.47)	0.072 (1.83)

* Out of square tolerance to be 1% of total width tolerance max.

RELEASED
2012-09-12

A NEW ISSUE		AP	12.09.06
REV	DESCRIPTION	BY	DATE
DESIGN	AP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP	REV. A SHEET 1 OF 1	
CHECKED	AP	DRAWING NO. MSTEEL-A2	
MFG. APPR.	N/A	TITLE AISI A2 TOOL STEEL	
APPROVED	AP	SCALE NTS	
DE APPR.	AP	DATE 12.09.06	